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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,133	09/11/2003	Jean-Pierre Lassoie	074263.0180	6920

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EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,133

Applicant(s)

LASSOIE ET AL.

ST

Examiner

Jennifer H Gay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/11/03, 8/25/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract has been constructed as a single run-on sentence instead of a narrative paragraph. Further, if applicant wishes to include the recited equation in the abstract, all variables included therein must be defined. Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:

- In line 15 of page 4, ",", for example," should be deleted.
- In line 1 of page 5, "T" should be made lower case, as a lowercase "i" is the variable used in the remainder of the disclosure.
- In line 1 of page 11, "const ruction" should be changed to -- construction--.

Appropriate correction is required.

Claim Objections

4. Claims 1, 5, 6, 10, 15, and 18 are objected to because of the following informalities:

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- In claims 1 and 18, all of the variables used in the recited equation should be defined.
- Claim 5 is objected to because of the use of the phrase “may be”. While this is not improper, the phrase tends to make it unclear as to if applicant intends the recited limitation to be part of the claim or not.
- In line 2 of claim 6, “with respect” should be deleted.
- In line 2 of claim 10, “each” should be changed to --at least one--.
- In line 9 of claim 15, “hole -opening” should be changed to --hole-opening--

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1-20 are rejected under 35 U.S.C. 102(a) as being anticipated by BE 1012545 A (referred to hereafter as Akesson; US 6,360,831 is the US equivalent to this reference and will be used in the rejection given below).

Regarding claims 1, 2, 18, 19: Akesson discloses a borehole opener 1 that includes the following features:

- An elongated, cylindrical body 2.
- A duct 4 for drilling fluid where the duct is formed longitudinally of the body and has a fluid passage cross-section of a given inside radius.
- At least two hole-opening arms 5 that are movably coupled to the body and are extendible from a first position 9 where the arm is located generally flush with the body and a second position 10 where the arm is at least partially extended with respect to the body.

- Each arm has a respective intermediate support **15** that is coupled to the body and operable to provided support to the arm along a given distance when the arm is the second position.
- In the second position, each arm extends from the body a given distance.
- Though the specific relationships between the above mentioned distances are not disclosed, it is the opinion of the examiner that, due to the apparatus in the instant application and the apparatus in Akesson, such relationships would inherently apply to the above describe apparatus.

Regarding claims 3, 4, 19: Each arm has a cylindrical portion with a given diameter that is greater than the distance along which the intermediate supports support each arm.

Regarding claim 5: Each arm has an internal face **12** that is designed and positioned to be subjected to pressure from drilling fluid within the body such that an increase in pressure in the duct will force the arms from the first to the second position.

Regarding claim 6: Each arm is positioned such that the arms move along an axis parallel to the central axis **3** when moving from the first to the second position.

Regarding claim 7: The arms are moved from the second position to the first position by a means for elastically returning the arms **14**.

Regarding claim 8: Each arm is held in the first position prior to the hole-opening operation by a pin **19** that is designed to break when a predetermined pressure is applied to it.

Regarding claim 9: Each of the arms are mounted to the body using the intermediate supports such that the supports provide a housing for the arm.

Regarding claim 10: The pin for each arm fixes the arm to the intermediate support.

Regarding claim 11: The arms are moved from the second position to the first position by a means for elastically returning the arms **14**. Each of the supports, arms,

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elastic return means, and the pins forms an assembly **21** that can be assembled outside of the body.

Regarding claims 12, 13: Each of the pins is designed to have a region of weakness **19A** at a point of transition **20** where the pin passes from the body into the arm or from the support into the arm.

Regarding claim 14: The hole-opener further includes a longitudinal passage **22** along the surface of the body between the two arms and a boss **23** located within the passage.

Regarding claims 15, 16: The hole-opener includes a plurality of stops **25, 26** coupled to the body to limit the movement of the arms from the first to the second positions such that, in the second position, the arms sweep through an area having a largest diameter that is equal to between 1.05 and 1.3 times the nominal diameter of a drill bit associated with the borehole opener for combined drilling and hole-opening operations.

Regarding claim 17: Each pin is operable to limit the movement of the respective arm.

Claim Rejections - 35 USC § 103

7. Claims 1-20 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Akesson.

The rejection of claims 1-20 under 35 U.S.C 102(a) is given above. The following rejection is offered in alternative.

Regarding claims 1, 2, 18, 19: Akesson discloses a borehole opener **1** that includes the following features:

- An elongated, cylindrical body **2**.
- A duct **4** for drilling fluid where the duct is formed longitudinally of the body and has a fluid passage cross-section of a given inside radius.
- At least two hole-opening arms **5** that are movably coupled to the body and are extendible from a first position **9** where the arm is located

generally flush with the body and a second position 10 where the arm is at least partially extended with respect to the body.

- Each arm has a respective intermediate support 15 that is coupled to the body and operable to provided support to the arm along a given distance when the arm is the second position.
- In the second position, each arm extends from the body a given distance.

Akesson discloses all of the limitations of the above claims except for the specific relationships between the above stated distances.

However, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have formed the above described apparatus such that the specific relationships between the given distances where meet, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 3, 4, 19: Each arm has a cylindrical portion with a given diameter that is greater than the distance along which the intermediate supports support each arm.

Regarding claim 5: Each arm has an internal face 12 that is designed and positioned to be subjected to pressure from drilling fluid within the body such that an increase in pressure in the duct will force the arms from the first to the second position.

Regarding claim 6: Each arm is positioned such that the arms move along an axis parallel to the central axis 3 when moving from the first to the second position.

Regarding claim 7: The arms are moved from the second position to the first position by a means for elastically returning the arms 14.

Regarding claim 8: Each arm is held in the first position prior to the hole-opening operation by a pin 19 that is designed to break when a predetermined pressure is applied to it.

Regarding claim 9: Each of the arms are mounted to the body using the intermediate supports such that the supports provide a housing for the arm.

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Regarding claim 10: The pin for each arm fixes the arm to the intermediate support.

Regarding claim 11: The arms are moved from the second position to the first position by a means for elastically returning the arms 14. Each of the supports, arms, elastic return means, and the pins forms an assembly 21 that can be assembled outside of the body.

Regarding claims 12, 13: Each of the pins is designed to have a region of weakness 19A at a point of transition 20 where the pin passes from the body into the arm or from the support into the arm.

Regarding claim 14: The hole-opener further includes a longitudinal passage 22 along the surface of the body between the two arms and a boss 23 located within the passage.

Regarding claims 15, 16: The hole-opener includes a plurality of stops 25, 26 coupled to the body to limit the movement of the arms from the first to the second positions such that, in the second position, the arms sweep through an area having a largest diameter that is equal to between 1.05 and 1.3 times the nominal diameter of a drill bit associated with the borehole opener for combined drilling and hole-opening operations.

Regarding claim 17: Each pin is operable to limit the movement of the respective arm.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


The remaining references made disclose various wellbore-reaming devices.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (703) 308-2881. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703) 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG 
September 24, 2004